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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,657	09/12/2003	Lakshminath Dondeti	120-306	9491

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EXAMINER	
CHAI, LONGBIT	
ART UNIT	PAPER NUMBER
2131	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/661,657	DONDETI ET AL.	
	Examiner	Art Unit	
	Longbit Chai	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/9/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Restriction

1. On December 19, 2006, talked to attorney Lindsay G. McGuinness over the phone regarding restriction requirement on this application. Attorney elects Group I of the following two groups without traverse. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1 – 15 and 23 – 26, drawn to Virtual Private Network Protocol, classified in class 726, subclass 15.

II. Claims 16 – 22 and 27 – 30, drawn to a packet authentication technique to determine whether the packet is a secure packet and restore the packet from a transformed packet between the private networks over a public network, classified in class 713, subclass 170.

Inventions I and II are related as combination and subcombination disclosed as usable together in a single combination. The subcombination is distinct from the combination if it is shown to be separately usable. The following case instants:

Invention I provides a packet encapsulation and transformation techniques regarding Virtual Private Network Protocol for secured packet data transfer.

Invention II provides a packet authentication technique to determine whether the packet is a secure packet and restore the packet from a transformed packet between the private networks over a public network.

This Office Action only addresses the claimed inventions of Group I: Claims 1 – 15 and 23 – 26.

Priority

1. Applicant's claim for benefit of domestic priority under 35 U.S.C. 119(e) is acknowledged.

The application is filed on 9/12/2003 but has a U.S. provisional application number 10/661,657 filed on 1/24/2003.

Double Patenting

The nonstatutory provisional double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1 – 4, 12 – 15 and 23 – 26 are rejected under the judicially created doctrine of obviousness-type provisional double patenting as being unpatentable over claims of copending application 10/661,903. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1 – 4 and 11 of the instant application are envisioned by the claims of the copending application that contain all the limitations of claims of the instant application and as such claims of the instant application are not patently distinct from the earlier copending application claim and as such are unpatentable for obvious-type provisional double patenting.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraph of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 4 – 6, 8, 9, 11 – 14, 23, 24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by **Liu** (U.S. Patent 2002/0154635) which incorporates the reference of **Caronni** et al. (U.S. Patent 6,970,941) as shown in (Liu: Para [0002]).

As per claim 1, Liu / Caronni teaches a method of securing packet data transferred between a first and second member of a private network over a backbone, the backbone operating according to a routing protocol (Caronni : Column 2 Line 14 – 35 and Column 4 Line 38 – 52), the method comprising the steps of:

receiving a packet (Caronni : Column 11 Line 37 – 61);

apportioning the packet into a first portion and a second portion, wherein the first portion includes fields of the packet used for transmission of the packet according the protocol of the backbone (Caronni : Figure 2B & Column 12 Line 11 – 19: the first portion is the SRC/DST real address according the protocol of the backbone);

transforming the second portion of the packet according to a group security association associated with the private network to provide a transformed portion (Caronni : Column 7 Line 5 – 33, Column 3 Line 17 – 21 and Column 11 Line 37 – 43: VARPDB stores the mappings of the internal / private address, known as node ID, which is considered as a part of the group security association and the Supernet contains a modification to the IP packet format that can be used to separate network behavior from addressing);

appending the first portion of the packet to the transformed portion to provide a transformed packet (Caronni : Figure 2B & Column 12 Line 11 – 19: the first portion is the SRC/DST real addresses according the protocol of the backbone is appended to the second portion of SRC/DST virtual addresses); and

transmitting the transformed packet to the backbone using the private network address (Caronni : Column 3 Line 17 – 23).

As per claim 12, Liu / Caronni teaches a method for securing a communication link between at least two members of a private network, the communication link for transporting a packet having first header and a payload , the first header identifying a source address and a destination address packet (Caronni : Column 2 Line 14 – 35 and Column 4 Line 38 – 52), the method including the steps of:

distributing a security association to each of the at least two members of the private network (Caronni : Column 10 Line 24 – 29: distributing a part of the security association to each member when a new node joined);

transforming each packet transferred between the at least two members of the private network (Caronni : Column 7 Line 5 – 33, Column 3 Line 17 – 21 and Column 11 Line 37 – 43), the step of transforming including the steps of:

generating a second header, the second header including a source address associated with the source address in the first header, and a destination address identifying the private network (Caronni : Column 7 Line 5 – 21: the second header is the SRC/DST virtual addresses);

replacing the first header of the packet with the generated second header to provide a modified packet (Caronni : Column 7 Line 5 – 33, Column 3 Line 17 – 21 and Column 11 Line 37 – 43);

applying the security association to the modified packet to provide secure packet (Caronni : Column 7 Line 5 – 33, Column 3 Line 17 – 21 and Column 11 Line 37 – 43: VARPDB stores the mappings of the internal / private address, known as node ID, which is considered as a part of the group security association); and

appending the first header to the secure packet to provide a transformed packet; and forwarding the transformed packet over the communication link using the private network address (Caronni : Figure 2B & Column 12 Line 11 – 19: the first portion is the SRC/DST real addresses according the protocol of the backbone is appended to the second portion of SRC/DST virtual addresses).

As per claim 23, Liu / Caronni teaches an apparatus at a node for transforming packets for forwarding between a plurality of members of a group communicating on a scalable private network over a backbone, wherein the backbone operates according to a protocol (Caronni : Column 2 Line 14 – 35 and Column 4 Line 38 – 52), the apparatus comprising:

a key table, the key table including a security association for each group that the node is a member (Caronni : Column 7 Line 5 – 33 : VARPDB stores the mappings of the internal / private address, known as node ID, which is considered as a part of key table);

transform logic operable to apply a security association to only a portion of each packet transmitted over the private network associated with each group to ensure that a remaining portion of the packet enabling communication over the backbone according to the protocol is preserved (Caronni : Figure 2B & Column 12 Line 11 – 19, Column 7 Line 5 – 33, Column 3 Line 17 – 21 and Column 11 Line 37 – 43: only Supernet virtual address contains a modification to the IP packet format that can be used to separate network behavior for forwarding communication between members of the group using an private network address associated with the group and the portion of SRC/DST real address according the protocol of the backbone is preserved); and

forwarding logic for forwarding communication between members of the group using an private network address associated with the group (Caronni : Column 3 Line 17 – 23).

As per claim 2, 13 and 24, Liu / Caronni teaches the backbone comprises a plurality of provider devices (Liu: Page 2 Line 1 – 2), and and wherein the step of transforming is performed by one of the plurality of provider devices in the backbone (Liu: Para [0050] Line 3 – 7, Para [0065] Line 4 – 7, Para [0066] Line 1 – 4 / 8 – 10 and Caronni : Column 8 Line 31 – 47: alternatively, the router node, by running SNlogin, can perform address translation and security encapsulation transparently the same way as the computer terminal device node does).

As per claim 4, 14 and 26, Liu / Caronni teaches the step of transforming is performed at the first member of the private network (Caronni : Column 2 Line 27 – 32: terminal computer device D_1).

As per claim 5, Liu / Caronni teaches transforming the second portion of the packet comprises the steps of:

generating a group header associated with the private network (Caronni : Column 7 Line 10 – 14: Supernet ID = group ID);

appending the group header to the second portion of the packet prior to the step of transforming the second portion of the packet to provide a modified packet (Caronni : Column 11 Line 37 – 61); and

transforming the modified packet according to the group security association associated with the private network to provide the transformed packet (Caronni : Column 11 Line 37 – 43, Column 7 Line 5 – 33, and Column 3 Line 17 – 21: VARPDB stores the mappings of the internal / private address, known as node ID, which is considered as a part of the group security association).

As per claim 6, Liu / Caronni teaches the first portion of the packet comprises a first header, the first header having a type, source and destination, and wherein the group header comprise a group type, group source and group destination, and wherein the step of generating a group header includes the step of copying the type of the first

header to the group type (Caronni : Column 3 Line 21 – 23 and Column 5 Line 20 – 23: a selected group address and group type can be used for any type of delivery scheme).

As per claim 8, Liu / Caronni teaches the group security association is an Internet Protocol Security transform (Caronni : Column 9 Line 28: IPSec).

As per claim 9, Liu / Caronni teaches the group security association is an Encapsulated Security Protocol.(Caronni : Column 9 Line 28: ESP protocol).

As per claim 11, Liu / Caronni teaches receiving, at each member of the private network, a key corresponding to the private network group security association (Caronni : Column 10 Line 26 – 29: KMS = Key Management Server).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3, 15 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (U.S. Patent 2002/0154635), in view of Alkhatib et al. (U.S. Patent 2003/0233454).

As per claim 3, 15 and 25, Liu does not disclose expressly an edge device is disposed between the first member of the private network and the backbone, and wherein the step of transforming is performed at the edge device.

Alkhatib teaches an edge device is disposed between the first member of the private network and the backbone, and wherein the step of transforming is performed at the edge device (Alkhatib : Par [0049] Line 14 – 17 and Para [0017] Line 1 – 8: a gateway, that changes and encapsulates the destination address, can be considered as an edge device, which also appears in the specification of the instant application (SPEC: Page 3 Line 14: Customer Edge device may also be referred to as a gateway device).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Alkhatib within the system of Liu because (a) Liu teaches a mechanism to extend private networks onto a public infrastructure (Liu: Para [0015] and [0018]) and (b) Alkhatib teaches providing a method to create a binding between public address and private address when communicating over a private network (Alkhatib : Para [0019]).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (U.S. Patent 2002/0154635). **Liu** (U.S. Patent 2002/0154635), which incorporates the reference of **Caronni** et al. (U.S. Patent 6,970,941) as shown in (Liu: Para [0002]).

As per claim 7, Liu discloses the first header further includes a length, the group header further includes a group length, and wherein the method includes the steps of copying the length to the group length (Caronni : Column 7 Line 15 – 16 : Examiner notes any of the standard protocol format obviously conforms to standard T / L / V fields (Type, Length, and Value) as a complete layout of a protocol specification).

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu (U.S. Patent 2002/0154635), in view of Boden et al. (U.S. Patent 6,330,562).

As per claim 10, Liu does not disclose expressly the group security association is an Internet Key Encryption.

Boden teaches the group security association is an Internet Key Encryption (Column 2 Line 4 – 5: IKE scheme).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Boden within the system of Liu because (a) Liu teaches a mechanism to extend private networks onto a public infrastructure over a VPN (Virtual Private Network) (Liu: Para [0015] and [0018]) and (b) Boden teaches providing a data model for abstracting customer-defined VPN security

policy information to dynamically negotiate, create, delete, and maintain secure connections at the IP level with other VPN nodes (Boden : Abstract).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Longbit Chai whose telephone number is 571-272-3788. The examiner can normally be reached on Monday-Friday 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Longbit Chai
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LBC

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